Elkhorn Mountains Elk Project
Progress Report – Spring 2016

Background

In collaboration with the Elkhorn Working Group, Helena National Forest, Montana State University, and Montana Department of Military Affairs, Montana Fish, Wildlife & Parks initiated a study to evaluate the impact of mountain pine beetle (MPB) infestation on elk habitat and elk movements in the Elkhorn Mountains in January 2015. Management agencies as well as communities adjacent to forests impacted by these infestations are working to develop management strategies to manage impacted forests and mitigate potential impacts to wildlife. This report summarizes project activities during September 2015—April 2016.

Elk Survival Monitoring

There are currently 25 radiocollared female elk and 9 radiocollared male elk being monitored. Two female elk were harvested during the 2015 hunting season (1 during an early season damage hunt, and the other during general season), and 2 female elk were killed by mountain lions in fall 2015 (*Figure 1*). The first female was killed in late October <1 mile north of the Hall Creek trailhead. The second female was killed in early November near the shore of Canyon Ferry Reservoir 3 miles north of the mouth of Antelope Creek. One male elk was harvested during the 2015 archery hunting season. One male elk died of natural causes, and it is suspected he was wounded during sparring with another bull. He had a badly broken front leg and puncture wound on his right shoulder. Additionally, 1 female and 4 male radiocollars have failed.

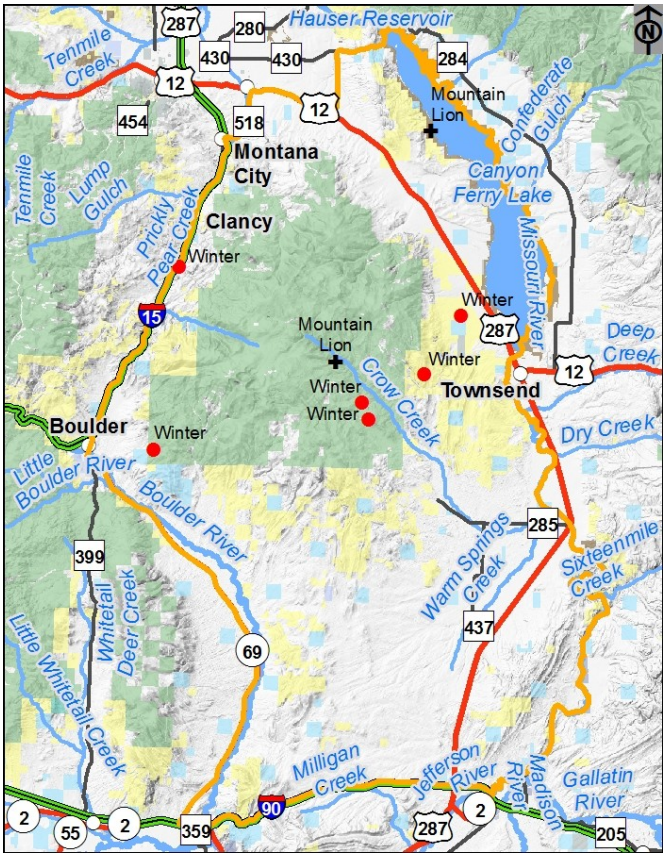

Figure 1. Winter elk pellet collection sites (red dots) and location of mountain lion predations (black crosses). HD380 is outlined in orange.

Elk Diet Sampling & Vegetation Monitoring

We collected 6 winter (December - March) samples of elk pellets from different regions of the Elkhorn Mountains study area (*Figure 1*). These pellet samples will be analyzed for fecal plant fragments to identify the key elk winter forage species. The summer and winter pellet samples have been sent to the Washington State University Habitat and Nutrition Lab for diet analyses. After identifying the key forage species, we will collect samples of important forage species and have forage plants analyzed for nutritional content and digestibility as part of our elk forage and habitat monitoring program. Our vegetation monitoring will begin in May 2016. We will be sampling vegetation composition and abundance across the study area with a goal of evaluating elk forage quality and nutritional resources.

Elk Seasonal Movements

Elk are currently all still on winter ranges. Collared elk near Jefferson City and Clancy began to move to low elevation winter range during archery season, but the majority of elk did not move to winter range until after general rifle season had finished. Hunting season distributions are shown in *Figure 3*. The female elk that was collared near Doherty Mountain has mostly remained near this area. She journeyed into the Bull Mountains northeast of Whitehall at during September, and spent the winter near the Golden Sunlight Mine just north of I-90. She has now returned to the east side of Big Mountain north of Doherty Mountain. No elk have made long distance movements or emigrated from the Elkhorn Mountains area. Archery and general rifle season elk distributions are displayed in *Figure 3*.

Upcoming Project Plans

We will continue to monitor elk movements and survival. We are working toward re-capture efforts for the winter of 2016/2017, provided funding can be secured. As diet samples are processed and the results are received we will begin to analyze key forage plants for elk in the study area.

Acknowledgements

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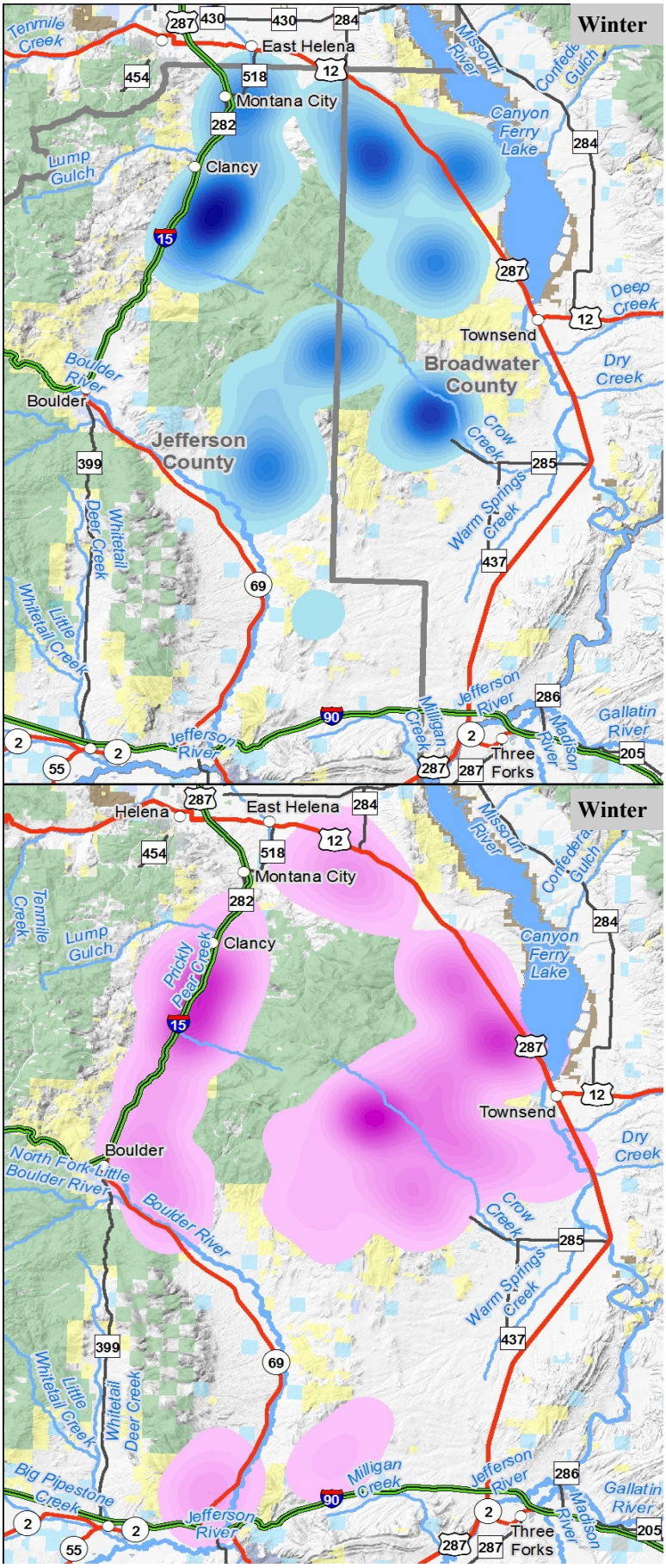

***Figure 2. Male (blue) Female (pink) elk distributions during winter* (December 1, *2015*- March 31, 2016).**

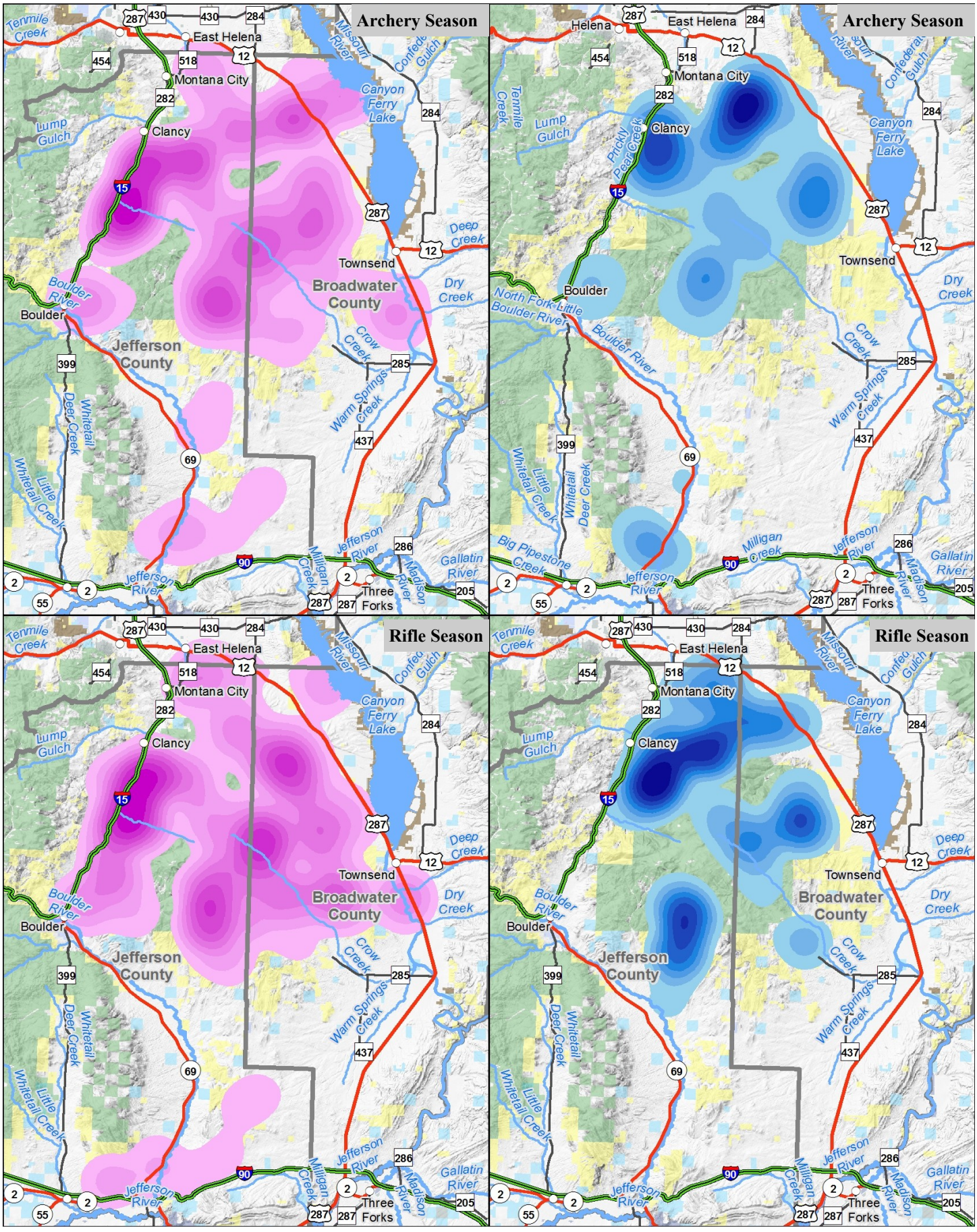

Figure 3. Female (pink) and male (blue) elk distributions during archery season (Top panels Sept. 5– Oct. 18) and general rifle season (bottom panels Oct. 24– November 29) 2015.